THE

ONTARIO WATER RESOURCES

COMMISSION

WATER POLLUTION SURVEY

OF THE

TOWN OF LINDSAY

COUNTY OF VICTORIA

1964

THE

ONTARIO WATER RESOURCES

COMMISSION

Report on

WATER POLLUTION SURVEY

of the

TOWN OF LINDSAY

in the

COUNTY OF VICTORIA

Division of Sanitary Engineering

June 24, 25, 1964

Report on

WATER POLLUTION SURVEY

of the

TOWN OF LINDSAY

INDEX

APPENDICES

WATER POLLUTION SURVEY

of the

TOWN OF LINDSAY

INTRODUCTION

A water pollution survey of the Town of Lindsay was performed on June 24 and 25, 1964. Surveys of this type are performed by the Ontario Water Resources Commission in order to locate potential and existing sources of surface water pollution. Recommendations are made concerning the abatement of conditions which exert adverse effects on water quality.

INTERVIEWS

Discussions were held with the following officials during this survey:

Mr. E. A. Booth, P. Eng., Town Engineer;
Mr. R. J. Reynolds, Superintendent, Board of Water Commissioners;
Dr. W. R. Crowe, Medical Officer of Health.

An unsuccessful attempt was made to contact Mr. W. B. Bates, Town Clerk.

THE TOWN OF LINDSAY

The Town of Lindsay is located in the southern part of the County of Victoria. According to the 1964 Municipal Directory, the population of Lindsay is approximately 11,303. The area of the municipality is approximately 3,850 acres.

The Scugog River flows from Lake Scugog in a northerly direction through Lindsay to empty into Sturgeon Lake.

WATER USES

Municipal

The Scugog River is the source of the municipal water supply. The municipal storm drainage systems conduct flows to the river. The watercourse receives the effluent from Lindsay's waste stabilization pond which is located downstream from the town.

Industrial

The Scugog River and one of its tributaries receive the industrial waste flows from several manufacturing plants in Lindsay.

Recreational

The use of the Scugog River for bathing in Lindsay is confined to that section of the watercourse lying upstream from the central part of the town. The facility of access to the Kawartha Lakes via the Scugog River has prompted extensive boating in Lindsay. Numerous boats are mooored along the river bank downstream from the Wellington Street bridge.

WATER SUPPLY

The municipal water purification plant is located near the west bank of the Scugog River and south of Mary Street. The water supply is drawn from the river through two 16-inch diameter intake pipes extending approximately 32 feet into the watercourse. Complete treatment of the water is provided, including pre- and post-chlorination. An Infilco Accelator unit is utilized to provide flocculation and sedimentation prior to filtration. Three mechanical gravity filters are

utilized.

Water storage is provided in the system by two elevated tanks which are located at Henry Street and at Highway 36, respectively. The tank on Henry Street has a capacity of 0.25 million gallons and the tank located near Highway 36 has a capacity of 0.5 million gallons.

The Lindsay Board of Water Commissioners has taken action to protect the municipal water supply by controlling the use of the river and its banks for some distance upstream from the municipal water purification plant.

SURFACE WATER DRAINAGE

Storm sewers and ditches conduct most of the surface drainage flows either to the Scugog River or to some of its small tributaries within the town. In some instances, small watercourses experiencing intermittent flows have been improved to facilitate drainage. Although the existence of storm sewers in Lindsay is not extensive, progressive action is being taken to exlude storm water from sanitary sewers.

An improved watercourse terminates on the west bank of the Scugog River a short distance upstream from the Lindsay Street bridge. The flows in this drain, which is known as the "big ditch", are intermittent and were absent during this survey. The flows which occur in this ditch during periods of surface run-off are a matter of concern to the Lindsay Board of Water Commissioners because this outfall is located upstream from the intakes at the municipal water purification plant. On various occasions in the past, this drainage course has

received sewage flows erupting from a manhole in the sanitary sewer extending from the Victoria County Home for the Aged to the town's sanitary sewer system. The pertinent manhole is located at the foot of Adelaide Street. The aforementioned county sewer problem probably resulted from a partial blockage in the sewer. The condition might have been aggravated by the infiltration of ground water and the resulting surcharge in the problematic section of the sewer. Although the reconstruction of this sewer was commenced, completion of the work has been delayed. Additional potential sources of waste discharge to this drainage course should be investigated by local officials. During the spring months of 1964, excessive foaming similar to that produced by detergents was observed in this ditch by local residents.

A drainage ditch which is located south of Highway 7B in the western part of the town extends in a south-westerly direction and probably would conduct run-off flows to a tributary of Mariposa Brook. This ditch was devoid of flow at the town limit during this survey.

SEWAGE WORKS

Lindsay is served to a major extent by networks of sanitary sewers which reportedly receive some surface water flows via street catch-basins. The town officials are engaged in an active construction program to segregate surface water flows from sanitary sewers. Some sections of the municipality are not served by sanitary sewers, and in such areas the sewage flows are discharged either to private sub-surface

sewage disposal systems or to surface water drainage systems. The Mary Street area is an instance where municipal sanitary sewers are non-existent and where difficulty has been encountered in providing adequate private sewage disposal systems.

The municipal sanitary sewers conduct sewage flows to two sewage pumping stations from whence the wastes are pumped to the main pumping station located approximately 500 feet north of the town near the projection of Lindsay Street. The purpose of this sewage pumping station is to deliver all sewage flows to the town's waste stabilization pond which is located north of Lindsay in the Township of Ops.

SEWAGE PUMPING STATIONS

Three sewage pumping stations are employed in the municipal sewerage system. The locations of these units and the pertinent overflow arrangements are described as follows:

1. The main sewage pumping station is located approximately 500 feet north of the town limit near the projection of Lindsay Street. All sewage flows entering the municipal waste stabilization pond are pumped from this sewage pumping station.
   An overflow pipe extends in a northerly direction from the pumping station to a ditch terminating at the Scugog River. There was no overflow on June 24, 1964.

2. A sewage pumping station is located on the west bank of the Scugog River at Colborne Street. This unit pumps almost all of the town's sewage to the main sewage pumping station. An inverted syphon was installed beneath the Scugog River to drain sewage flows from the eastern part of the town to this sewage pumping station at Colborne Street. Unfortunately, this syphon has become defective and the raw sewage directed thereto is diverted to the mouth of a creek which empties into the Scugog River near Colborne Street. Appropriate plans have been made to repair the defective syphon.
   Reportedly, the pertinent sewage pumping station can overflow to the river, although such was not observed during this survey.

3. A sewage pumping station is located east of Lindsay Street and north of Kent Street.
   This unit can overflow through the municipal storm sewer which discharges to the river at sample point number TS.156.23 WR.

WASTE STABILIZATION POND

Although a conventional sewage treatment plant was employed at Lindsay for many years, deterioration of the plant units contributed to the decision to construct a municipal waste stabilization pond. Constructed by agreement between the Town of Lindsay and the Ontario Water Resources Commission, the waste stabilization pond and the main sewage pumping station were placed in active service during 1963.

The waste stabilization pond has a retention area of approximately 109 acres, and is comprised of six cells. The sewage treatment unit was designed and constructed to permit flexibility of operation. The effluent from this treatment facility is discharged to the Scugog River.

The efficiency of a sewage treatment facility usually is assessed by this Commission in terms of BOD and suspended solids removal. Based on the laboratory results pertaining to four sets of "grab" samples collected by OWRC staff during 1964, the reduction in five-day BOD and suspended solids was approximately 91 per cent and 75 per cent, respectively.

INDUSTRY

The principal industrial firms located in Lindsay are listed as follows:

Name of Firm	Production
Allan Bros.	Monuments
Bagshaw Lumber Ltd.	Lumber products
Brinton Carpets Ltd.	Yarn spinning
Canada Crayon Ltd.	Chalk and crayons
Canadian Pyjamas and Shirt Co.	Work shirts, fine shirts, pyjamas
Dominion Brake Shoe Ltd.	Brake linings
Finney Lumber Ltd.	Lumber products
Howell Block and Tile	Concrete blocks
J. A. Arnberg and Co. Ltd.	Wood dowels
J. E. Blewett, Printing	Commercial printing
J. W. Deyell, Printers Ltd.	Printing & bookbinding
Kent Buffing Specialty Ltd.	Plating, polishing, buffing
Lincraft Ltd.	Laboratory and store fixtures
Lindsay Antenna and Specialty Products Ltd.	T.V. antennae, lawn furniture
Lindsay Daily Post	Newspaper, commercial printing
Lindsay Soda Water Works	Soda water
Marlyn Superior Products	Laminated plywoods
McCrae Machine and Foundry	Sawmills and special machinery
Mount Hope Machinery Ltd.	Machinery
Rosedale Plastics Ltd.	Plastic Products
Schultz Die Casting Co. of Canada Ltd.	Zinc and lead castings
Sylvester Steel Products Ltd.	Steel fabricating, railway work cars
The Warder	Newspaper
Turner-Seymour Ltd.	Kitchenware, etc.
Union Carbide (Canada)Ltd. Visking Div.	Cellulose meat casings, polyethylene film & tubing
Varcum Chemical Corp. (Canada)Ltd.	Resin
Victoria Custom Dyers	Dyeing operations

Sanitary and industrial waste flows are discharged from many of these premises to the municipal sanitary sewer system. Exceptions include the following plants which discharge industrial waste directly to the Colborne Street tributary of the Scugog River: Schultz Die Casting Company of Canada Limited, Dominion Brake Shoe Limited, and Union Carbide of Canada Limited, Visking Division. Although these firms have undertaken an effluent control programme, additional action is necessary. The Victoria Custom Dyers plant is located near the bank of the

Scugog River at Bond Street, and discharges dye waste directly to the Scugog River.

Although the Dominion Brake Shoe Limited plant and the Victoria Custom Dyers plant were not inspected during this survey, these firms and the aforementioned industrial premises discharging to the Colborne Street tributary have been contacted by members of the Industrial Wastes Branch of this Commission to recommend appropriate remedial action where necessary.

PRIVATE OUTFALLS

Although outfalls from private premises might exist to some extent in Lindsay, such outfalls were not located during this survey.

SAMPLING PROCEDURE

Seasonal weather conditions prevailed during this survey, with no precipitation occurring. The atmospheric temperature during the collecting of samples was approximately 75 degrees Fahrenheit.

Samples were collected from the waters of the Scugog River and its tributary within the town, and from outfalls thereto which were evident. Appended to this report is a map of Lindsay showing the locations of sampling points. The pertinent laboratory results are appended to this report in Tables I to V, inclusive.

INTERPRETATION AND SIGNIFICANCE OF LABORATORY RESULTS

The analyses employed to determine the quality of samples were: biochemical oxygen demand (BOD), solids, tests for specific chemicals, and the enumeration of coliform

organisms.

The BOD of sewage, industrial wastes, or polluted waters, is the oxygen required during stabilization of the decomposible organic or chemical material by aerobic biochemical action. A five-day BOD determination with incubation at 20 degrees Centigrade is reported. A high BOD is indicative of organic or chemical pollution. The BOD of a watercourse should not exceed four parts per million (ppm).

The analyses for solids include tests for total, suspended, and dissolved solids. The first test measures both the solids in solution and in suspension. The results are reported in ppm. The suspended solids indicate the measure of undissolved solids of organic or inorganic nature in suspension. Land erosion, sewage, and industrial wastes are significant sources of suspended solids. The effect of suspended solids in water is reflected in difficulties associated with water purification, and deposition in streams which could interfere with the habitat of aquatic life. The dissolved solids are a measure of those solids in solution.

The coliform count is employed to obtain an enumeration of coliform organisms. The presence of coliforms indicates pollution by human or animal excrement, or by some non-faecal forms. The number of coliforms is reported per 100 millilitres (ml) of the sample. The membrane filter technique was used in the examination of these samples. The content of coliforms in a watercourse should not exceed 2,400 organisms per 100 ml.

SAMPLE RESULTS

The pertinent laboratory results are shown in appendices to this report as follows:

Table I - Scugog River
Table II - Tributary of Scugog River in Lindsay
Table III - Municipal Storm Drainage Outfalls
Table IV - Municipal Sewage Discharge
Table V - Industrial Waste Outfalls

Scugog River

Although the quality of the Scugog River water was satisfactory at the upstream (south) limit of Lindsay, a severe deterioration of water quality was evident as the river flowed through the town. It is obvious that this condition resulted from the discharging of untreated or inadequately treated sewage to the river and its tributary within the town. The high pH and the presence of appreciable concentrations of chrome, sulphate, and cyanide, are undesirable.

Tributary of Scugog River

The flows in the creek which empties into the Scugog River on its west bank near Colborne Street were conducting the discharges from industrial premises during this survey. There was no flow in this watercourse upstream from the Visking plant outfall. Designated by some residents as Sinister Creek, this watercourse does not have an official appellation. The laboratory results reveal that the flows in this watercourse on June 24, 1964, had an objectionable content of BOD, sulphate, and coliform organisms. The presence of chrome and cyanide is cause for apprehension since it is desirable that these toxic chemicals should not be present in surface waters.

Municipal Storm Drainage Outfalls

Comments are made concerning these outlets where discharges were active during this survey:

Sample Point No. TS.156.23 WR

This municipal storm sewer outfall is located on the south bank of the Scugog River, east of Lindsay Street. This storm sewer can receive any overflows from the local sewage pumping station. The excessive coliform content in the discharge from this outlet to the river confirms the presence of sewage.

Sample Point No. TS.156.05 W

The flows discharging from this municipal storm sewer outlet, located on the west bank of the Scugog River north of the Wellington Street bridge, contained a high coliform content which is indicative of the presence of sanitary waste.

Sample Point No. TS.156.05 W (E)

The submerged municipal storm sewer outlet located on the east bank of the Scugog River north of the Wellington Street bridge was not accessible for sampling. It was reported by a responsible official that these flows contain sewage discharges from several dwellings, a commercial building, and a church, as had been confirmed by previous dye testing. This condition will be corrected soon by pumping the sewage flows to the sanitary sewer on Lindsay Street.

Municipal Sewage Discharge

Sample Point No. TSX.155.80 R

This municipal sewer outlet is located at the mouth of the watercourse which converges with the Scugog River (east side) near Colborne Street. Due to the defective syphon arrangement which should conduct sewage from the east side of the river to the sewage pumping station located on the west bank of the river, the raw sewage flows are diverted through an outlet to the creek. The pertinent laboratory results indicate the presence of untreated sewage flows. Reportedly, this unsatisfactory condition will be corrected during 1964 by repairing the sewer syphon.

Industrial Waste Outfalls

Sample Point No. TSX.156.36 I

The outfall from the Schultz Die Casting Company

Limited plant to the local creek contained a high concentration of chrome for a discharge to a watercourse.

Sample Point No. TSX.156.52 I

The outfall from the Visking Limited plant to the local creek had a high content of BOD, sulphate, and coliforms. Although this firm has attempted to reduce the objectionable aspects of these flows, the laboratory results indicate that additional treatment of the waste is necessary for discharge to a watercourse.

SUMMARY

A water pollution survey of the Town of Lindsay was performed on June 24 and 25, 1964. Investigations were undertaken to obtain information concerning pollution of the Scugog River within the town.

Although Lindsay has acquired a waste stabilization pond for the treatment of sewage flows, it is obvious that a considerable quantity of sewage is discharged through municipal storm sewer outlets to the Scugog River and therefore does not receive treatment. However, it is gratifying to report that the local officials are aware of these conditions and are pursuing a programme to rectify these problems.

Of significant importance is the potential discharge of sewage to the "big ditch" which terminates at the Scugog River upstream from the municipal water purification plant intakes. The conscientious programme pursued by the Lindsay Board of Water Commissioners to protect the quality of the municipal water supply could be negated unless effective control of this localized potential problem is exerted.

Industrial wastes are discharged, in some instances, directly to the Scugog River or its tributary within the town

without adequate treatment. The river receives objectionable waste flows from the Victoria Custom Dyers plant, as reported by the Industrial Wastes Branch, Ontario Water Resources Commission. The aforementioned tributary receives industrial waste flows from the following premises: Schultz Die Casting Company of Canada Limited, Dominion Brake Shoe Limited, and Union Carbide, Visking Division. Although these latter plants have attempted to provide industrial waste treatment, it is evident that additional modifications will be necessary to effectively control the quality of the industrial waste discharges.

RECOMMENDATIONS

Officials of the Town of Lindsay should continue their comprehensive programme to direct all sanitary wastes and most industrial waste flows to the municipal waste stabilization pond. This will include the exclusion of untreated or inadequately treated wastes from storm sewers and surface drainage systems which discharge to watercourses.

Where manufacturing firms discharge industrial wastes directly to watercourses, adequate treatment of these wastes should be provided in order to minimize the occurrence of adverse effects in the receiving waters.

All of which is respectfully submitted,

District Engineer: J. K. Theil

Approved by: K. H. Sharpe, Director

/mh

ALL ANALYSES EXCEPT PH REPORTED IN PPM UNLESS OTHERWISE INDICATED

WATER POLLUTION SURVEY OF THE TOWN OF LINDSAY

TABLE I - SCUGOG RIVER

SAMPLES TAKEN BY:
R. G. BARRENS

SAMPLE POINT NO.	DATE OF SAMPLE 1964	DESCRIPTION	5-DAY BOD	SOLIDS			PH AT LAB.	CHROME AS CR	SULPHATE AS SO_4	CYANIDE AS HCN	BACTERIOLOGICAL EXAMINATION
				TOTAL	SUSP.	DISS.					COLIFORMS PER 100 ML (MEMBRANE FILTER)
TS.158.00	JUNE 24	SCUGOG RIVER AT UPSTREAM (SOUTH) LIMIT OF LINDSAY	1.9	298	10	288					400
TS.157.63	JUNE 24	SCUGOG RIVER AT MUNICIPAL WATER PURIFICATION PLANT	1.8	218	6.	212					120
TS.156.06	JUNE 24	SCUGOG RIVER AT WELLINGTON STREET BRIDGE	1.6	424	11	413					152,000
TS.155.57	JUNE 25	SCUGOG RIVER AT DENNISTON STREET	8.8	508	32	476	8.1	0.1	236	0	130,000
TS.154.82	JUNE 24	SCUGOG RIVER AT DOWNSTREAM (NORTH) LIMIT OF LINDSAY	11.0	460	86	374	9.1	0.1	193	0	3,000

ALL ANALYSES EXCEPT PH REPORTED IN PPM UNLESS OTHERWISE INDICATED

WATER POLLUTION SURVEY OF THE TOWN OF LINDSAY

SAMPLES TAKEN BY:
R. G. BARRENS

TABLE II - TRIBUTARY OF SCUGOG RIVER IN LINDSAY

SAMPLE POINT NO.	DATE OF SAMPLE 1964	DESCRIPTION	5-DAY BOD	SOLIDS TOTAL	SOLIDS SUSP.	SOLIDS DISS.	PH AT LAB.	CHROME AS CR	SULPHATE AS SO_4	CYANIDE AS HCN	BACTERIOLOGICAL EXAMINATION COLIFORMS PER 100 ML (MEMBRANE FILTER)
TSX.155.80	JUNE 24	MOUTH OF CREEK DISCHARGING TO SCUGOG RIVER AT COLBORNE STREET	13.0	2140	68	2072	7.2	3.2	1480	0.8	2,800
TSX.156.78	JUNE 24	AFOREMENTIONED CREEK AT EASTERN LIMIT OF LINDSAY			NO	FLOW					

ALL ANALYSES EXCEPT PH REPORTED IN PPM UNLESS OTHERWISE INDICATED

WATER POLLUTION SURVEY OF THE TOWN OF LINDSAY

SAMPLES TAKEN BY:
R. G. BARRENS

TABLE III - MUNICIPAL STORM DRAINAGE OUTFALLS

SAMPLE POINT NO.	DATE OF SAMPLE 1964	DESCRIPTION	5-DAY BOD	SOLIDS TOTAL	SOLIDS SUSP.	SOLIDS DISS.	PH AT LAB.	ANIONIC DETERGENTS AS ABS	BACTERIOLOGICAL EXAMINATION COLIFORMS PER 100 ML (MEMBRANE FILTER)
TS.157.85D	JUNE 24	THE "BIG DITCH" DRAINING TO THE SCUGOG RIVER WEST OF THE LINDSAY STREET SOUTH BRIDGE		NO FLOW					
TS.157.40D	JUNE 24	MARY STREET DITCH TERMINATING ON THE WEST BANK OF THE SCUGOG RIVER		NO FLOW					
TS.156.87D	JUNE 25	GLENELG STREET - DITCH TERMINATING ON THE WEST BANK OF THE SCUGOG RIVER		NO FLOW					
TS.156.86D	JUNE 25	GLENELG STREET - DITCH TERMINATING ON THE EAST BANK OF THE SCUGOG RIVER		NO FLOW					
TS.156.76D	JUNE 25	KAWARTHA STREET - DITCH TERMINATING ON THE EAST BANK OF THE SCUGOG RIVER		NO FLOW					
TS.156.61D	JUNE 25	KENT STREET EAST- DITCH TERMINATING ON THE EAST BANK OF THE SCUGOG RIVER		NO FLOW					
TS.156.23WR	JUNE 24	MUNICIPAL STORM SEWER DISCHARGING TO SOUTH BANK OF SCUGOG RIVER EAST OF LINDSAY STREET (NEAR BREWERS' RETAIL STORE)	3.2	518	27	491		1.6	310,000
TS.156.06W	JUNE 24	MUNICIPAL STORM SEWER DISCHARGING TO WEST BANK OF RIVER SOUTH OF WELLINGTON STREET BRIDGE		NO FLOW					
TS.156.05W(W)	"	MUNICIPAL STORM SEWER DISCHARGING TO WEST BANK OF RIVER NORTH OF WELLINGTON STREET BRIDGE	2.2	362	6	356			80,000
TS.156.05W(E)	"	MUNICIPAL STORM SEWER DISCHARGING TO WEST BANK OF RIVER NORTH OF WELLINGTON STREET BRIDGE	SUBMERGED OUTLET - NO SAMPLES COLLECTED BUT SEWAGE REPORTEDLY IS PRESENT						
TS.155.58D	JUNE 24	DITCH FROM DENNISTON STREET TERMINATING NEAR EAST BANK OF SCUGOG RIVER		NO FLOW					

ALL ANALYSES EXCEPT PH REPORTED IN PPM UNLESS OTHERWISE INDICATED

WATER POLLUTION SURVEY OF THE TOWN OF LINDSAY

SAMPLES TAKEN BY:
R. G. BARRENS

TABLE IV - MUNICIPAL SEWAGE DISCHARGE

SAMPLE POINT NO.	DATE OF SAMPLE 1964	DESCRIPTION	5-DAY BOD	SOLIDS TOTAL	SOLIDS SUSP.	SOLIDS DISS.	BACTERIOLIGICAL EXAMTNATION COLIFORMS PER 100 ML (MEMBRANE FILTER)
TSX.155.80 R	JUNE 25	SEWAGE DISCHARGE TO MOUTH OF CREEK WHICH EMPTIES INTO THE SCUGOG RIVER (EAST SIDE) AT COLBORNE STREET. THIS DISCHARGE RESULTS FROM THE DEFECTIVE SYPHON WHICH EXTENDS ACROSS THE RIVER AT THIS LOCATION.	125.0	574	106	468	6,300,000

ALL SAMPLES EXCEPT PH REPORTED IN PPM UNLESS OTHERWISE INDICATED

WATER POLLUTION SURVEY OF THE TOWN OF LINDSAY

SAMPLES TAKEN BY:
R. G. BARRENS

TABLE V - INDUSTRIAL WASTE OUTFALLS

SAMPLE POINT NO.	DATE OF SAMPLE 1964	DESCRIPTION	5-DAY BOD	SOLIDS TOTAL	SOLIDS SUSP.	SOLIDS DISS.	PH AT LAB.	SULPHATE AS SO_4	CYANIDE AS HCN	CHROME AS CR	ALKALINITY AS $CaCO_3$	BACTERIOLOGICAL EXAMINATION COLIFORMS PER 100 ML (MEMBRANE FILTER)
TSX.156.36 I	JUNE 24	OUTFALL FROM SCHULTZ DIE CASTING CO. LIMITED PLANT - TO LOCAL TRIBUTARY OF THE SCUGOG RIVER.	3.2	382	28	354	7.7	276	0.8	11.0	---	30
TSX.156.52 I	JUNE 24	OUTFALL FROM VISKING LIMITED PLANT TO LOCAL TRIBUTARY OF THE SCUGOG RIVER	26.0	5004	106	4898	6.3	2990	---	---	40	1,650,000

S.P.S.

TS-194.82

ABANDONED RAILWAY

CANADIAN NATIONAL RAILWAY

EGLINTON ST.

POTTENGER ST.

ELGIN ST.

REGENT ST.

COLBOURNE ST.

BOND ST.

WELLINGTON ST.

PEEL ST.

KENT ST.

RUSSELL ST.

GENELG ST.

MELBOURNE ST.

DURHAM ST.

GEORGE ST.

MARY ST.

QUEEN ST.

KING ST. E.

KENT ST. E.

KAWARTHA ST.

GLENELG ST.

NEEDHAM ST.

DENNISTOWN ST.

COLBOURNE ST.

HWY. No. 35

HWY. No. 7A

ANGELINE ST.

ADELAIDE ST.

ALBERT ST.

VICTORIA ST.

WILLIAM ST.

ST. PAUL ST.

ST. PATRICK ST.

ST. PETER ST.

ST. DAVID ST.

ST. GEORGE ST.

LINDSAY ST.

HIGHWAY No. 35

SUSSEX ST.

CAMBRIDGE ST.

SCUGOG RIVER

CANADIAN NATIONAL RAILWAY

CANADIAN PACIFIC RAILWAY

WATERCOURSE

SCHULTZ DIE CASTING CO. LTD.

VISKING LTD.

S.P.S.

S.P.S.

S.P.S.

MUNICIPAL WATER PURIFICATION PLANT

TS-155.37

TS-155.58

TSX-155.80

TSX-155.91

TS-156.05 W

TS-156.05 E

TS-156.06

TS-156.08

TS-156.23 W

TS-156.61 D

TS-156.74 D

TS-156.87 D

TS-156.86 D

TSX-156.34

TSX-156.53

TSX-156.78

TS-157.40 D

TS-157.63

TS-157.65 D

TS-158.00

WATERCOURSE IND. FLOW JUNE 25, 1964

TRANS CANADA HWY. No. 7 DIVERSION

DRAINAGE COURSE (THE BIG DITCH)

LOUIE ST.

ABANDONED RAILWAY

LEGEND

TS-157.63 – SAMPLING POINT SHOWING STREAM AND MILEAGE

TS-156.06 W – STREAM AND MILEAGE AT OUTFALL – TYPE OF OUTFALL

OUTFALL SYMBOL LETTERS

W – STORM SEWER
D – DITCH OR SMALL WATERCOURSE
R – RELIEF SEWER FROM A SEWAGE PUMPING STATION
I – INDUSTRIAL WASTE SEWER

ONTARIO WATER RESOURCES COMMISSION

TOWN OF LINDSAY

WATER POLLUTION SURVEY
1964

SCALE: 1" = 400'	
DRAWN BY: A.R.S.	DATE: JULY, 1964
CHECKED BY:	DRAWING No: 64-52